

# NRC INSPECTION MANUAL

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## PART 9900: TECHNICAL GUIDANCE

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RG116\_A2.TG

### REGULATORY GUIDE 1.16 PARAGRAPH C.2.a(2) & C.2.b(2) REPORTING REQUIREMENTS - DEGRADED MODE

#### A. PURPOSE

The purpose of this guidance is to clarify the term degraded mode as used in Regulatory Guide 1.16 in order to assist the inspector in determining the reportability of an event and the report type (time frame). Examples of application of degraded mode to equipment failures are provided.

#### B. DISCUSSION

The Technical Specifications establish specific requirements for reporting of nonroutine events. These reporting requirements are frequently referenced to Regulatory Guide 1.16, which provides for documentation of licensee reportable events. This interpretation addresses reporting of occurrences involving either violation of Limiting Conditions for Operations (LCOs) or operation in a degraded mode permitted by LCO action statements.

Paragraph C.2.a(2) of Regulatory Guide 1.16, Rev. 4, states that prompt notification with written follow-up is required when, during operation of the unit or affected systems, any parameter or operation subject to an LCO is less conservative than the least conservative aspect of the LCO established in the Technical Specifications.

A distinction is drawn between what constitutes violation of the LCO and other events that require a report. In short, except for surveillance testing and preventive maintenance, whenever a parameter or system enters an action mode described in the related LCO, no violation of the specification has occurred, but a 30-day written report is required.

The Note which follows paragraph C.2.a(2) amplifies this by stating that if the specified action is taken when a system is found to be operating between the most conservative and the least conservative aspects of an LCO, the LCO is not considered to be violated and no report need be submitted under this section. This means that prompt notification with written followup (2 weeks) is not required under

these circumstances. The Note does, however, refer to paragraph C.2.b(2) which requires a 30-day written report in such cases which involve operation in a degraded mode as permitted by an LCO.

The degraded mode of operation within the context of R.G. 1.16 relates directly to the provisions of Technical Specification LCOs. The criterion for reportabil-

ity of an event involving equipment failure is the effect which the failure has on safe operation of the plant, which is reflected in LCOs, rather than the fact that an equipment failure occurred.

If an equipment failure occurs that does not violate an LCO or place the plant in an action statement of an LCO that is applicable to the existing plant operating condition (called OPERATION MODE in Standard Technical Specifications), neither prompt notification nor a 30-day report is required. However, if the equipment failure is detected after the plant has been shutdown and the failure cannot be attributed to a specific shutdown activity, the failure should be reported as if the plant had been operating in a degraded mode. The data on equipment failures that are not required to be reported via LER are subject to inclusion in the annual operating report per R.G. 1.16, Paragraphs C.1.b.(1) and C.1.b.(2)(e).

Operation of a reactor in a degraded mode is definitely of interest to the NRC, and the requirement for such reporting was carefully considered. Such events, if they were to occur too frequently, could indicate the need for appropriate licensing action, as such events could alter the basic assumptions of reliability on which the acceptability of operation rests. Further, reporting of these events enables the NRC to detect trends which might not be apparent to an individual facility operator.

#### Examples of this Interpretation

1. Failure of a single instrument channel may or may not be a reportable occurrence. It would not be reportable if the minimum instrumentation logic or minimum number of operable channels allowed by Technical Specifications were maintained without entry into an LCO action statement (i.e., a degraded mode does not exist). If the failure caused an LCO action statement to be entered, e.g., bypass or trip the channel, but the LCO was not violated, a 30-day report would be required because of degraded mode. If the LCO was violated, e.g., action statements not followed or plant condition less conservative than the least conservative aspect of the LCO, then prompt notification would be required.
2. Failure of a safety related pump. Assume three pumps exist within a system and Technical Specifications LCOs require only two of these pumps for plant startup. One of the three pumps fails. The LCO is not violated and the plant operation is not in a degraded mode (subject to an LCO action statement) as a result of this failure. The failure, therefore, is not reportable in an LER.

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